

1 perspective, how do you, -- from my network I can go ahead
2 and offer all of this because of the new generation
3 equipment. But once I hit the ILEC piece, I can't do that
4 unless either I pay for the CBR or go over the UBR.
5 Therefore, I can't deliver the service that I committed to
6 my customers.

7 MR. SACKMAN: Yes. This is Jim Sackman from AFC.
8 I think again the issue really isn't the equipment. It has
9 to do with back office systems, people, test equipment,
10 mops, standards, practices, terms and conditions, all that
11 other stuff that comes out with equipment, because you know
12 what? Everybody's equipment here can do that. That's not
13 the problem. It has to do with everything else built with
14 an ILEC offering a service and you know what? This is hard.
15 This is not easy. If you guys think that this is easy, I
16 think you should ask Mr. Lube how many DSL circuits he was
17 supposed to roll out and how many he did. I mean, you know,
18 they didn't meet their number because this is hard. If it
19 was easy we would all do it and we'd all be not here.

20 (Laughter.)

21 MS. SYED: No, I understand that. My concern here
22 is from a competitive provider perspective. Until some
23 evolution happens or the ILECs are coming along and changing
24 some of this, the technology is there --

25 MR. BOLTON: Right.

1 MS. SYED: -- but you can't extend it to the
2 customer right now because a piece of it, which you have to
3 rely on the ILEC part, you cannot force that.

4 MS. FARROBA: Okay. I think we're getting a
5 little bit astray of the -- I'd like to just make sure this
6 stays on the technical level. So can --

7 MR. LUBE: But, Ms. Farroda, this is definitely a
8 technical issue that I think we definitely need to address.
9 What this -- this is John Lube with SBC.

10 What this boils down to, is for an ILEC network to
11 be able to handle different kinds -- new kinds of --
12 different kinds of services that the CLECs would desire.
13 The issue that's really on the table from the network --
14 from the ILEC network's point of view is, there is cost
15 involved in providing these enhanced capabilities. The risk
16 of that cost falls squarely to the ILEC.

17 As I mentioned a minute ago, it's like the movie
18 "Field of Dreams." If the ILEC expends a great deal of
19 money to provide the additional capacities or hardware or
20 whatever that's required to do this, is it going to be able
21 to in the marketplace -- I mean even if regulators allow
22 recovery, which in some cases we already have experienced
23 that regulators don't allow recovery, cost recovery. But
24 even if the regulators do allow it, will there be enough
25 takers and users that come to play that will actually allow

1 the recovery of that investment?

2 So, having said that, we will not put features and
3 capacities into the network unless it makes business sense
4 and economic sense to do that. We share the angst of all of
5 the CLECs who would like to provide every whistle, buzzer
6 and bell to their end-users that they possibly could, but
7 this technology comes at a price. We also have to consider
8 the price competitiveness again of the bigger broad band
9 network which includes cable modem. So all of these things
10 have to be taken into consideration.

11 MS. FARROBA: Okay.

12 MR. REISTER: I have a technical response to that
13 which goes back to my earlier comment which is when you
14 provide VBR per subscriber it's actually fairly difficult to
15 engineer the network because each time you're provisioning a
16 new subscriber you have to verify that your network on end
17 to end can meet that contract.

18 That's why I mentioned earlier, if you could do a
19 CBR virtual path. So now you could set up 10 megabits from
20 a particular RT as a CLEC and then you could do RTVBR into
21 that. It's the same as doing RTVBR into a DS-3, right. So
22 you'd have your 10 megabit path and now the only thing the
23 ILEC has to care about is that 10 megabits. They care
24 nothing about the fact that you've given one subscriber a
25 guaranteed 50 kilobits and another subscriber a guaranteed

1 500 kilobits. They don't care about that.

2 The ILEC can just say, "All right. You've got 10
3 megabits and now you're going to have five, 10, 50, 100 --
4 you as the CLEC can determine how much to oversubscribe
5 that. You don't have to -- obviously, the benefit of doing
6 this in the virtual world, right, in ATM versus doing it
7 with a DS-3 is the fact that you could start out by saying,
8 okay, I'd like to buy a one megabit virtual path. After you
9 get across a dozen or two dozen or three dozen customers you
10 say, now I'd like to upgrade that to four megabits.

11 So now the incumbent carrier doesn't have to,
12 every time, each single customer, his provision, doesn't
13 have to go through and worry about engineering the whole
14 network. It's just got that virtual path and you can
15 engineer to that. Sorry to beat the dead horse here.

16 MR. DRAKE: Yes. William Drake with WorldCom.
17 William Drake with WorldCom. With that type of a scenario,
18 that would enable the CLEC to offer other services beyond
19 just plain voice and data. This is something we want to do
20 very badly. We want to offer streaming audio, we want to
21 offer video, voice over services, and we would like to do
22 that today.

23 With that kind of scenario that can happen and it
24 could also happen cheaply for the ILEC. They don't have to
25 build huge networks and wait for us to come. They can do it

1 at a small rate.

2 MR. LUBE: This is John Lube with SBC. I'm sorry.

3 MS. FARROBA: Just a second.

4 First, the gentleman from Rhythms and then I
5 think, Mr. Kiederer, did you have a comment, as well?

6 Verizon? Okay.

7 MR. REILLY: This is Dave Reilly with Rhythms.
8 I mean John made a good point that if we buy band width in
9 multiples of what our demand is, again the argument that
10 John made from SBC goes away. In other words, they aren't
11 building something that isn't being paid for.

12 If we buy 10 megabits of band width we pay for 10
13 megabits of band width whether we use it or not. This is a
14 way that it is commonly purchased today in the market for
15 transport services.

16 MR. LUBE: This is John Lube with SBC. I won't
17 take your time to repeat everything I had said earlier about
18 PVP, but if you'll please look back in the transcript with
19 my concerns about it there is some appeal to the concept of
20 PVP but there's some real concerns that I expressed before.
21 If you'll just please look at those again.

22 MS. FARROBA: Okay.

23 MR. KIEDERER: Charlie Kiederer with Verizon.
24 You know, again we think -- we're looking at things in the
25 big picture and we're not getting down to the realities.

1 You know, what was mentioned about the fact that
2 as long as we provide this they'll purchase the capability.
3 But in order for the ILEC to provide it there's a whole host
4 of work that has to be done in that particular unit, that
5 particular remote terminal. With the software, with the
6 hardware, with the transport mechanism, with the OCDs, roll
7 back off of systems, just to make one kilobit of data
8 available on a virtual path, okay. If I'm only selling one
9 kilobit of data then I'm not making very much money back on
10 that. So we need to be concerned about that.

11 The other issue is that even with the virtual path
12 you now set aside a fixed amount of band width. And if you
13 have six players and they all set aside 20 megabits of data
14 and when one player perhaps has many, many more subscribers
15 than another, you've now essentially taken away that band
16 width. You've chewed it up along in the pipe and now you're
17 into the scenario of trying to provide some relief in that
18 transmission meeting. So you still have this capacity
19 management issue that you have to deal with.

20 MR. STANSHINE: How do you deal with that with
21 retail customers who may -- say you've got a building with
22 an OC-3 delivered to it and you're using up two DS-3s worth
23 of capacity out of that OC-3 in the building? Maybe a bunch
24 of voice lines and data lines? Then one customer comes
25 along and says, "I want a DS-3, a private line for my

1 business." Now if you serve that customer you can't serve
2 any more, at least not without putting in a whole lot more
3 capacity in the building. How do you handle that? And if
4 you can handle that why can't you handle the situation
5 described by Rhythms?

6 MR. KIEDERER: Because what was described by
7 Rhythms is not a simple matter of -- we're looking at a
8 remote terminal situation here.

9 MR. STANSHINE: It's a remote terminal deployed in
10 the building.

11 MR. KIEDERER: We wouldn't serve DS-3s on a remote
12 terminal deployed in the building. If we were serving DS-3s
13 to the building location, we would serve that with SONET
14 multiplexors that can handle DS-3s because remote terminals
15 typically aren't designed to handle DS-3s or even many DS-1s
16 for that matter. You typically only provide a minimal
17 amount of DS-1s on remote --

18 MR. STANSHINE: I'll take that one back. Okay.
19 You got me. But in general, there's always this problem
20 when a customer comes along and wants a lot of band width.
21 It does threaten your ability to serve subsequent customers
22 and it's something ILEC, CLEC, IXE, manage on a routine
23 basis.

24 MR. KIEDERER: Yes. But I'll go back to the
25 statement I made earlier, and that is in the RT environment

1 where we're typically dealing in a voice environment that
2 we're now trying to stick data into. It's much more complex
3 to do that than in a transport environment.

4 MR. KIEDERER: Rhythms, and then we'll see if we
5 have some other questions.

6 MR. REILLY: You mean as a data network engineer
7 and one of the best things you could hope for is that you
8 have to expand your network, that you've met capacity, you
9 have customers. You always have plans for growth. If you
10 have never had plans for growth you're assuming you're the
11 only one on the island.

12 MS. FARROBA: Some other questions?

13 MR. BOLTON: That's good news to everybody that
14 people want the band width and you pay for it.

15 MR. BURSTEIN: Well, actually that's where my
16 questions are coming from because I'm looking at the --

17 MS. FARROBA: I'm sorry. Would you go ahead and
18 identify yourself?

19 MR. BURSTEIN: Dave Burstein. I write something
20 called "DSL Prime" that covers this stuff. So I'm a
21 reporter and not a carrier, but I think I'm allowed to ask
22 questions at this point. Okay.

23 The one thing I'm looking at, is that these
24 terminals are not going to be thrown away and forklift
25 upgraded in the year 2004. So that all the questions being

1 decided today, have to start looking at the situation in
2 2004 and 6 and 7 and what's happening. So I want to ask a
3 couple of technical questions about the assumptions going
4 into this.

5 The first, I'm remembering Bill Kennard, among
6 others last year, talking about how rapidly Internet demand
7 is growing and how the demand underlying is doubling very
8 rapidly and the demand per user is also growing.

9 So the first question -- I'm just going to throw
10 these out because we don't have time for full answers. The
11 first question is what assumptions are you making about the
12 increased demand per user, such as the fellow from Bell
13 South who's doing a 50 to one oversubscription on that DS-3
14 which works today but wonder in the future?

15 Also, the number of ports that we're using in all
16 of this arithmetic, we're hearing a 764 number or whichever
17 it was, and I know the chip makers are going to be making
18 the denser chips that are going to go into the box.

19 The second question, again I'm just throwing it
20 out, as far as I understand, the economics -- and I've
21 looked at this pretty deeply -- of giving way more band
22 width, dual OC-12s instead of an OC-3, slightly better
23 switching fabric inside the box, and I know this on the
24 DSLAM side but I don't think it's that much different in the
25 DLC since it's about five -- maximum 10 percent more

1 expensive, to give you an order of magnitude, more band
2 width.

3 So what I've been hearing from a lot of people,
4 and I don't want to throw this just at the SBC guy who's
5 been speaking a lot, is that a lot of the questions here
6 have to do with can you deliver reliable service for voice
7 over DSL?

8 As I understand network management, quality of
9 service is one end of it but I think it's more economical in
10 this case to throw more band width and would that meet most
11 of the things that people are asking for CBR?

12 The final thing, last year Mike Powell at NAB said
13 that when he's regulating TV and he's looking at video he's
14 thinking that in three or four or five years, we're going to
15 be doing video over the Internet and that's going to change
16 all of the assumptions that he has to make at the FCC.

17 If you wanted to have video in five years, and I
18 think most of the engineers in this room believe that's
19 possible, would you be deploying the kind of equipment we're
20 talking about here? The OC-3s? Or what would your
21 equipment would differently if you thought your company --
22 an ILEC like Verizon that I know is doing loads of tests on
23 video -- would make that decision in three or five years
24 from now?

25 MS. FARROBA: Anybody want to start?

1 MR. BOLTON: Yes. This is Gary Bolton from Catena
2 Networks. While that's a very complex, multi-part question,
3 I'll take a stab at it, Dave.

4 So I think it's an excellent point. The first
5 thing that we have to keep in mind is that we have to be
6 able to get advanced services. My understanding of the 706
7 Initiative is to get advanced services to all Americans. To
8 be able to do that you have to have the most economically
9 efficient networks to deploy this.

10 To try to do -- and there were a number of
11 questions in the panel today about how do we do all this
12 kind of cross-connecting and overlay. I don't think anybody
13 on the panel will disagree that the most economically
14 efficient way to deploy advanced services in RTs is through
15 integration. So to have integrated line cards in RTs who
16 share common facilities and bring that back.

17 If you were able to deploy highly-integrated
18 services to all RTs so they get to the 95,000 RTs and now
19 they're fully equipped and now you have DSL at the basic
20 level so you can do whatever else -- things to all the
21 Americans that want to do that.

22 So then the next question is, well, now I want to
23 do other things beyond web browsing. So that gets into
24 building, you know, greater, wider pipes, transmission
25 facilities.

1 I think that's really what the argument is, is do
2 you start today and just try to build really big pipes and
3 try to, you know, build networks for, as Charlie would say,
4 you know, the "Field of Dreams" or do you try to focus on
5 getting DSL everywhere, which happens to be a committee that
6 I'm Chair of.

7 (Laughter.)

8 But you get DSL everywhere so that all subscribers
9 can have that service and then start going on doing things
10 like in project pronto where they're trying -- starting to
11 move RTs in shortened loops so you can have more band width.
12 So if you move RTs closer to subscribers you have shorter
13 loops and more band width. You can provide more advanced
14 services.

15 So it's a number of things that you have to do
16 there. But I think the really important thing that the
17 Commission should take out of all of this is that the
18 regulatory policy needs to be able to encourage and allow
19 integrated solutions so that all Americans can have DSL
20 service.

21 MR. STANSHINE: Actually, I was going to ask Mr.
22 Sackman a question but --

23 MR. SACKMAN: Go ahead.

24 MR. STANSHINE: Before you stopped at a point --
25 you were saying something and you stopped at a point and I

1 was expecting you to go a little further and I was generally
2 wondering what you were going to say next. But you had said
3 that in a small office application the OCD was possibly
4 prohibitively expensive. The way your sentence tone ended
5 off, I wasn't sure if you were going to lead into saying
6 that, that basic function of competitive access in a small
7 office was possibly prohibitively expensive or were you
8 going to lead to suggest an alternative technology that
9 might be more cost-effective or none of the above?

10 MR. SACKMAN: Well, yes. This is Jim Sackman from
11 AFC. What I had said earlier in that comment was that AFC
12 was developing low-end OCD capability within it's COT.

13 MR. STANSHINE: Sorry about that. I was --

14 MR. SACKMAN: So our theory is that we use us and
15 we don't put another box in there in the small central
16 offices. Something Mr. Ransom --

17 MR. STANSHINE: Sorry about that.

18 MR. SACKMAN: -- but the other thing I want to
19 mention -- and Dave and I have had this conversation on a
20 regular basis. The one thing that doing all of this is not
21 going to allow us to do because, you know what, I sell to
22 most of these guys. They're not going to let me raise the
23 price of POTS.

24 So when you do any of these rulings make sure that
25 you're not going to burden my system so that I have to

1 charge more for POTS cards because they're whipping me about
2 the head and shoulders and I know they are, Dr. Ransom as
3 well, about lowering that price and not raising it. That is
4 actually the ubiquitous service today.

5 MR. STANSHINE: Is there any particular thing
6 you're afraid that we're going to do that would raise the
7 cost of POTS?

8 (Laughter.)

9 MR. SACKMAN: If you make cabinets bigger that
10 will raise the cost of POTS. If you make us put bigger
11 battery plants in cabinets that will raise the cost of POTS.
12 There's all types of mechanical and logistical issues that
13 you can do that will raise the cost of POTS.

14 MR. STANSHINE: Thanks.

15 MS. FARROBA: Rhythms?

16 MR. REILLY: Yes. This is Dave Reilly from
17 Rhythms. I'd just like to touch on question number 12
18 before we run out of time, which is the spectrum capability
19 issue.

20 MS. ROSENWORCEL: Okay. Just for the record,
21 that's question 12 which asks about spectrum compatibility,
22 when you have multiple carriers offering advanced services.
23 I think we're considering in that context the provision of
24 ADSL out of a central office --

25 MR. REILLY: Right.

1 MS. ROSEWORCEL: -- as well as out of a remote
2 terminal.

3 MR. REILLY: Right. And that's the issue I want
4 to address. I had written a paper for T1E1, which is --
5 standards of working group body that deals with spectral
6 compatibility that showed that there's a significant
7 spectral compatibility issue when there are CO-based ADSL
8 and remote-based ADSL combining in the distribution plant.
9 Meaning one neighbor has it out of the RT and another
10 neighbor has it out of the CO.

11 In response to that paper, Verizon, Bell South and
12 SBC paid Telcordia to write a paper which showed if you
13 reduce the power and turn off some of the ADSL bins you can
14 coexist. You can have ADSL out of the CO and ADSL out of
15 the RT coexist in the loop plant.

16 This reduction in power also solves a number of
17 these issues that have been brought up about the heat
18 dissipation. I can only get three channel banks of ADSL out
19 of the RT, so it expands how many customers you could serve
20 out of that RT by reducing the power of each ADSL user.

21 MS. ROSEWORCEL: What's the status of that issue
22 with NRIC, which, ironically, was supposed to be listening
23 right now?

24 MR. REILLY: Yes. The status of that issue is --
25 again, these two papers were not in -- these two papers were

1 not in NRIC. These two papers --

2 MS. ROSENWORCEL: Okay. Hang on a second. Ed?

3 MR. ECKERT: Yes.

4 MS. ROSENWORCEL: We encourage you to give us an
5 update on what you're doing with Working Group 3?

6 MR. ECKERT: Okay. Great. My name is Ed Eckert
7 from Nortel Networks and I chair the NRIC V Focus Group 3 on
8 Wireline Network Spectral Integrity. For those of you who
9 don't know, NRIC is a Federal advisory committee and Focus
10 Group 3 was established specifically to advise the
11 Commission and the industry on the issues -- .

12 Focus Group 3 has already made some
13 recommendations on these issues in our February 27th report.
14 That report is part of the -- that work is part of the
15 record actually now in Dockets 96, 98 and also 98147 and it
16 can be found on the Web at www.nric.org.

17 I'd like to point out that membership of Focus
18 Group 3 includes subject matter experts from all of the LECs
19 and just a few vendors as trusted advisors. Focus Group 3
20 has been meeting this week and we've had extensive
21 discussions on this very topic, in fact. We agreed to
22 develop a white paper on the subject of wire line spectral
23 compatibility and interference and it will be titled "Remote
24 Deployed DSL: Advantages, Challenges and Solutions." We
25 have this targeted for delivery to the full counsel of NRIC

1 at the June meeting.

2 Lastly, I wanted to point out that the Technical
3 Subcommittee, T1E1, has published some technical
4 requirements for spectral management of T1417 and is
5 currently working on some updates to that document to
6 address the problems encountered with multiple providers.

7 Multiple Technologies offers services from
8 different points within the network, specifically having to
9 do with what we call intermediate TUs or what would be the
10 remotely deployed DSLs.

11 MS. ROSEWORCEL: Quest?

12 MR. REILLY: This is Dave Reilly from Rhythms
13 again. I mean the reality is these papers are on
14 public -- . I mean T1E1 is not a private organization like
15 NRIC is. You don't have to wait six months to get an
16 answer. These papers exist. They were proposed at the last
17 February meeting in Costa Mesa.

18 They clearly show there's a spectral compatibility
19 issue here. It also shows that there's a clear way to
20 resolve that issue. The problem is no one's stepping up and
21 doing that. Nor is there any requirement for anyone to be
22 spectrally compatible from a remote terminal. That doesn't
23 exist in the spectral management document that Ed referred
24 to as T1417.

25 MR. ORREL: I'd like to -- this is Barry Orrel

1 with Quest. I'd like to ask Ed Eckert a question. When
2 you're looking at the spectral compatibility issues
3 associated with multiple points of access in the loop, are
4 you truly looking at that? In other words, are you looking
5 at the placement of DSL at the central office, at the remote
6 terminal where the DLC is, simultaneously with remote
7 terminal and maybe a stand-alone DSLAM?

8 MR. ECKERT: Yes. The answer's simply yes.

9 MR. ORREL: Thank you.

10 MS. FARROBA: Okay. We're actually over. We've
11 run over the time that we had set up for this forum. Did
12 the staff have anything else they wanted to accomplish
13 before we end?

14 MR. STANSHINE: Do you want to follow up on that
15 PVP question we discussed --

16 MS. FARROBA: Go ahead.

17 MR. STANSHINE: Just to confirm with Dr. Ransom
18 that one PVP on a channel bank basically exhausts that
19 channel bank somehow or was that an --

20 MR. RANSOM: Well, perhaps it's too complex to go
21 into in a short time, but I can discuss it separately.

22 MR. STANSHINE: Okay.

23 MS. FARROBA: Okay. I'd like to thank all of the
24 panel participants for being here. This has been very
25 helpful. Also, for everyone who also joined us today for

1 this forum. Thanks.

2 MS. ROSEWORCEL: We should have a transcript
3 available within the docket on the web site sometime within
4 the next 10 days.

5 (Off the record at 4:04 p.m.)

6 (Whereupon, at 4:04 p.m., the meeting in the
7 above-entitled matter was adjourned.)

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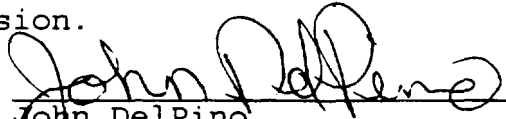
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In Next-Generation Networks

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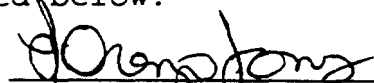
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